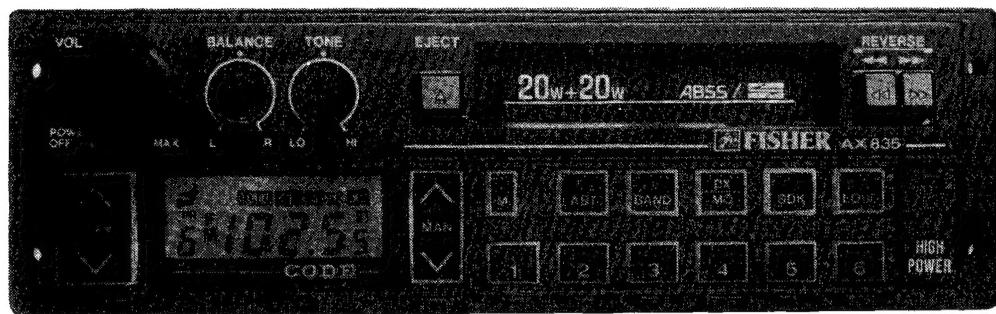




Service Manual

Full Auto Reverse CarFidelity Receiver/ Cassette Player

AX 835 (EUROPE)



PRODUCT CODE No.
147 578 34

Specifications

Tuner Section FM

Tuning Range (MHz)...87.5—108 MHz
Channel Spacing

(kHz).....50 kHz (Auto)

Sensitivity

(150 ohms).....2 μ V

Limiting

Sensitivity.....4 μ V

Auto Seek

Stop Level.....10 μ V

Image Rejection.....70 dB

Selectivity (300 kHz) ...65 dB

AM-Suppression40 dB

Capture Ratio.....2 dB

THD Mono.....0.3%

Stereo.....0.5%

Frequency Response

(-4.5dB).....40—12,500 Hz

Channel Separation

(1,000 Hz).....35 dB

Tuner Section AM

Tuning Range MW522—1,620 kHz

Channel Spacing

MW9 kHz
(Auto, manual)

Frequency

Response
(-4.5dB).....50—2,000 Hz

Image Rejection

(1,400 kHz)55 dB

Selectivity (9 kHz)±80 dB

Cassette Section

Max. Speed

Deviation±3.0%

Wow and Flutter

(DIN).....0.15%

Max. Winding

Speed (C-60).....90 sec.

Frequency

Response.....63—12,500 Hz

S/N Ratio.....52 dB

Crosstalk (1,000 Hz) ...40 dB

General

Output Power

2 channel 10%2x14 watts
Max.....2x20 watts

DC Power Supply11—16 volts

Current Drain

(Power off)10 mA
(Power on).....6A Max.

Dimensions

(WxHxD)178x50x150 mm

Weight.....1.2 kg

The above mentioned specification are mainly based on the IHF measurement standard.
They can therefore not directly be compared with specifications based on the DIN standard or other standards.

ALIGNMENT PROCEDURES

General

Test Conditions

Signal generator output;

Modulation frequency 1000 Hz

Modulation percentage 30%

Signal level just high enough to provide meter deflection.

Signal application;

Antenna receptacle through the dummy antenna.

Output meter connection;

Across the speaker or dummy load 4 ohms.

Setting of radio controls;

Volume control at maximum response.

Tone control at the center position.

Power supply 14.0V

* Location of the components for alignment are shown in MAIN PARTS IDENTIFICATION ILLUSTRATION (TOP VIEW).

Alignment of Head Azimuth

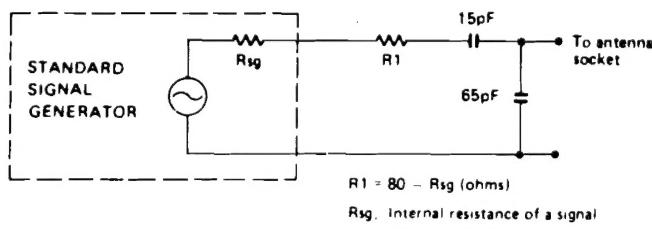
1. Insert a BASF 10kHz standard test tape and set the unit in play mode.

2. Tune the azimuth adjusting screw until you obtain maximum reading on the VTVM.

MW and RF Alignment

Step	Signal	Frequency	Dial Set	Test Equipment	Adjustment
1	MW	—	522 kHz	Connect a voltage meter to TP301 and common GND	Adjust T307 for voltage to be 1.2V.
2	Through Dummy ANT Fig. 1	603 kHz	603 kHz	Connect VTVM to output terminal	Tune T301, 303 for maximum output.
3	—	999 kHz	999 kHz	—	Tune T305, 306 for maximum output.
4	MW 37dB μ	999 kHz Stop sens	999 kHz	Connect voltage meter to TP300	Adjust SVR300 for voltage to be 2.5V

Figure 1 DUMMY ANTENNA FOR MW ALIGNMENT

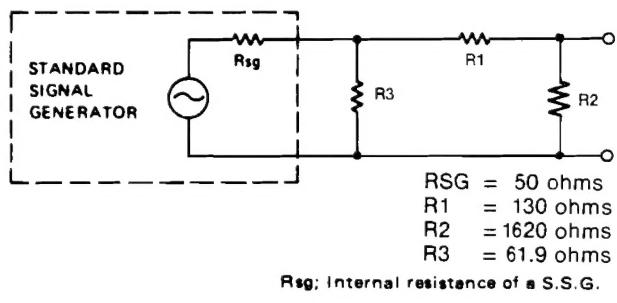


FM RF Alignment

Step	Signal input	Frequency of signal Generator	Dial Setting of Radio	Test equipment connection	Adjustment
1	Through dummy ANT Fig. 2	98.000MHz	98.000MHz	Connect VTVM to speaker output leads.	Tune T401, T202 for maximum output.
2		98.000MHz 60dB μ V	98.000MHz	Connect voltage meter to the speaker terminal	Adjust main VR for 1.4V
3		97.950MHz	98.000MHz	Connect voltage meter to the speaker terminal	Adjust T202 for voltage to be 0.7V
4		98.000MHz	98.000MHz	Connect voltage meter to the speaker terminal	Adjust SVR301 for 3db limiting to be 14db
5		98.000MHz (40±3dB μ)	98.000MHz	—	At local position, Adjust SVR203 for auto search stop sensitivity

NOTE 1. When you adjust step 2, use only plastic driver.

Figure 2 DUMMY ANTENNA FOR FM RF ALIGNMENT



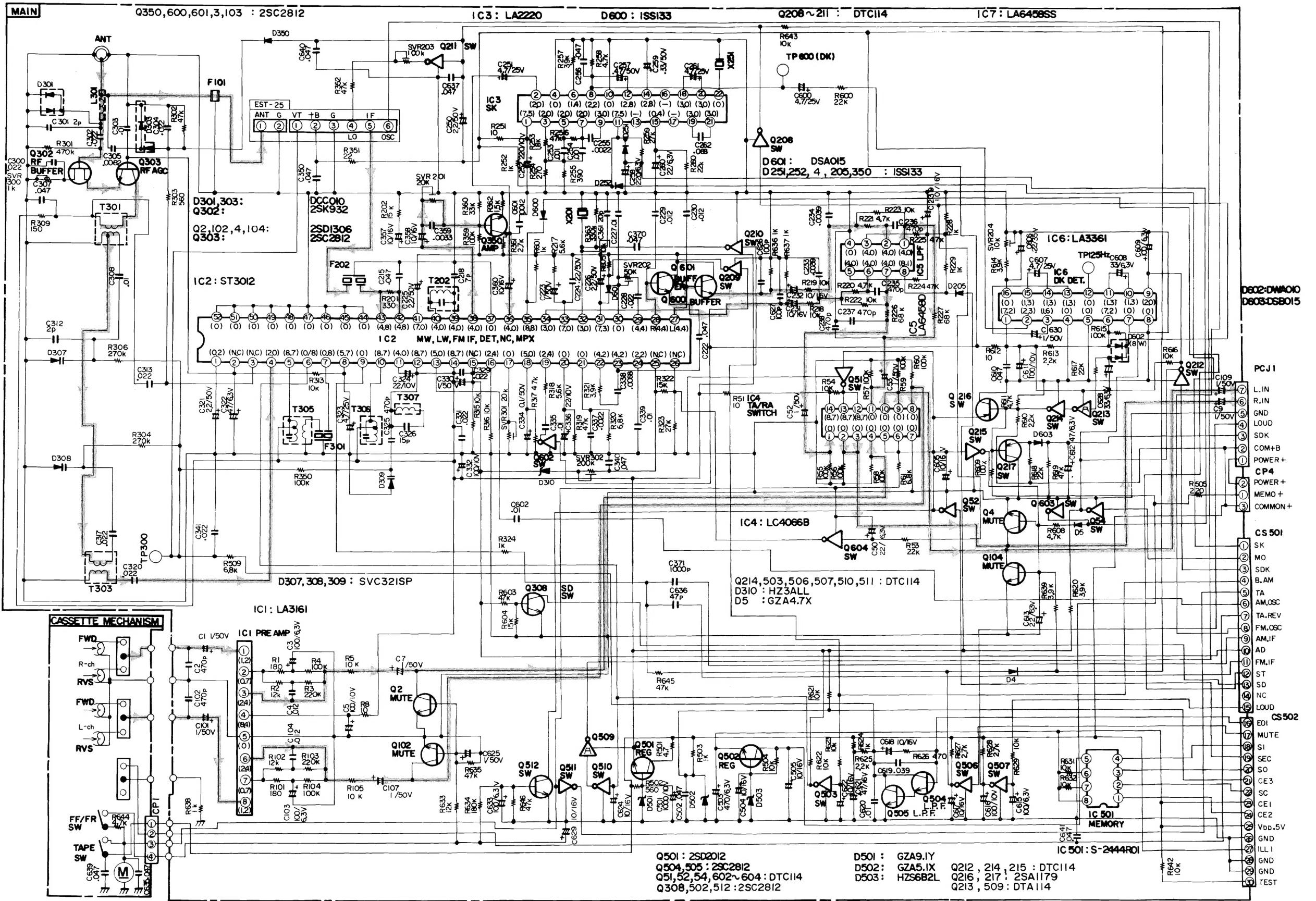
Multiplex Alignment (PLL)

PRELIMINARIES:

1. A stereo signal modulator (SSM) is necessary to perform this alignment.
2. All adjustments below must be done, setting the frequency at 98MHz on LCD display and applying 60dB FM signal modulated by specified signals as described below.
3. MPX button should be placed in stereo position during FM multiplex alignment.

Step	Alignment	Instrument Connections		Adjustment
		Input	Output	
1	Pilot Canceling	Apply FM stereo signal modulated only by 8% pilot signal to antenna terminal through dummy ANT.	Connect VTVM to speaker output of Left and Right Channel.	Adjust SVR202 to minimum output on VTVM.
2	10dB (SNC) Separation control	In addition Set the output signal under input level of 32dB	Connect VTVM to speaker output leads of Left and Right channel.	Adjust the SVR302 to make separation of 10dB +5dB -0dB between Left and Right channel.
3	Maximum Separation control	Apply FM stereo signal modulated only by 8% pilot signal and 30% stereo signal through dummy ANT to antenna terminal. Set the output select switch of SSG to the Left mode.	Connect VTVM to the Right Speaker terminal	Adjust SVR201 to minimum output on VTVM.
4	—	—	—	Repeat step 2, step 3.

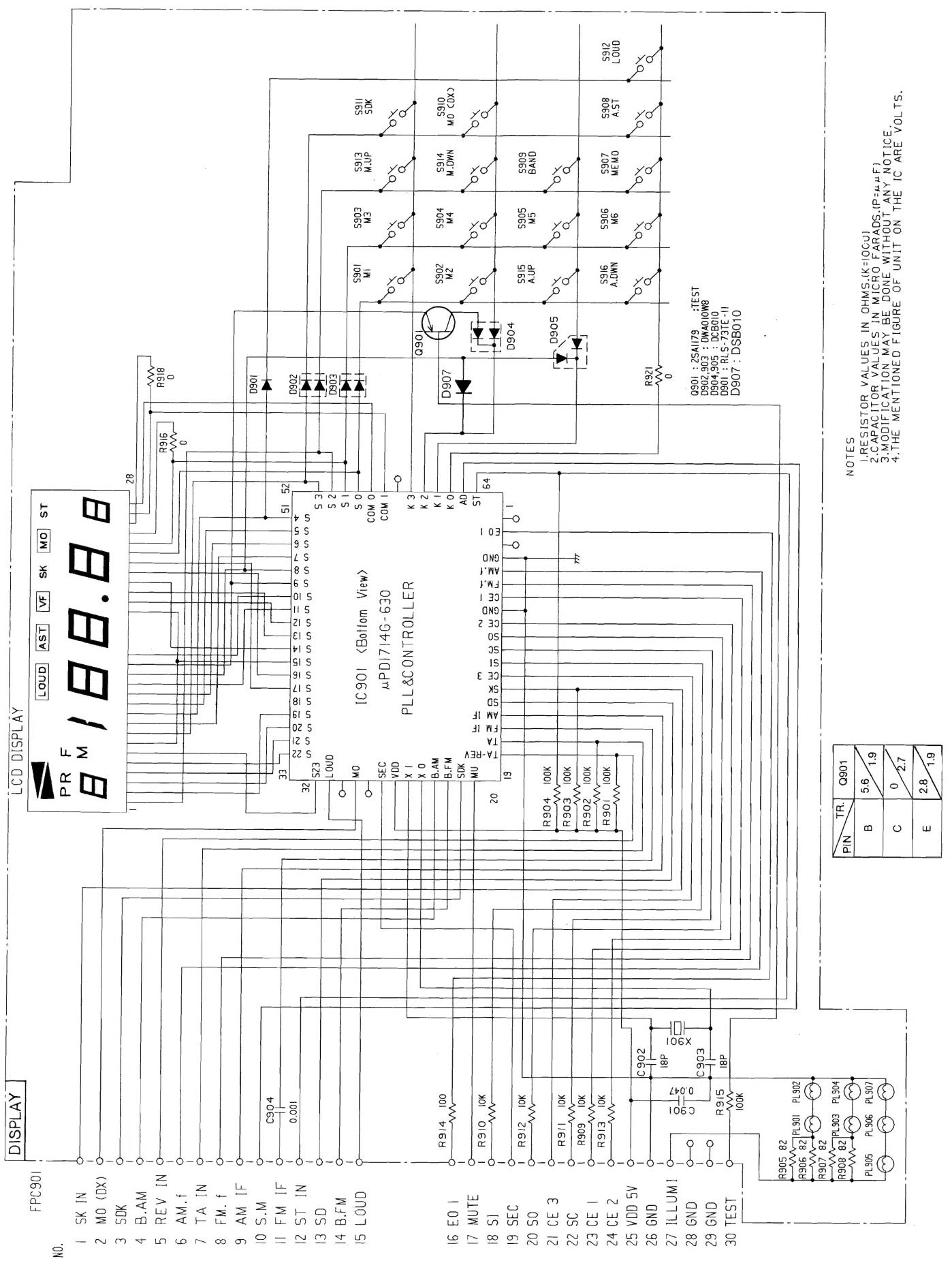
SCHEMATIC DIAGRAM-



PN	Q	Q302
G	0	
S	1.7	
D	0	

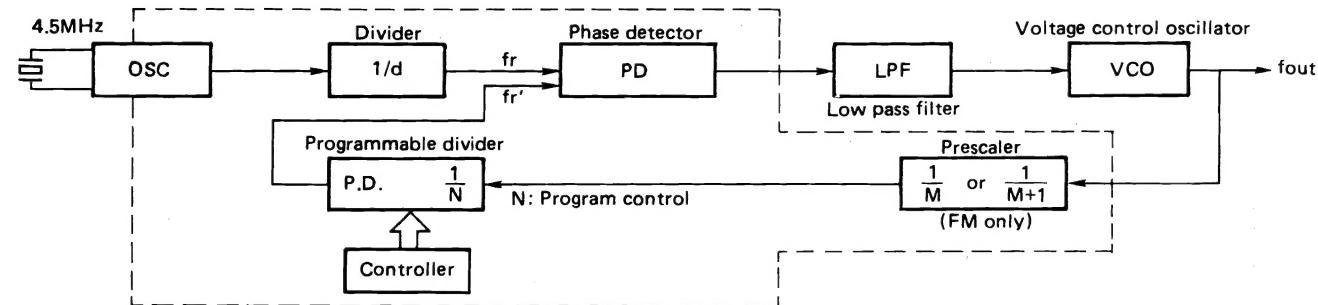
PIN	Q	930
B	N	C
C	7.1	
E	NC	

SCHEMATIC DIAGRAM



CIRCUIT DESCRIPTION

1. BASIC OPERATION OF PULL FREQUENCY SYNTHESIZER



The illustration above is a block diagram which is a fundamental PLL frequency synthesizer.

In order to obtain reference frequency f_r , the frequency of 4.5 MHz generated from a crystal oscillator (OSC) is passed into a divider circuit of $1/d$.

This f_r is compared with f_r' , and runs through phase detector (PD) and low pass filter (LPF) to be inverted to direct current signal, which is then applied as varicap voltage of voltage control oscillator (VCO), thereby controlling the oscillation frequency.

This oscillation frequency f_{out} is divided down to $1/N$ by programmable divider (P.D.), so that one closed loop is fixed in the relation of

$$f_{out} = f_r N$$

therefore, the operation of PLL is stabilized

In the case of automatic channel selection, the dividing ratio N is altered by the PD by a command from controller, and f_{out} is changed accordingly.

Programmable divider

Since the oscillation frequency of VCO is very high as compared with f_r , it is divided down to $1/N$ (in the case of AM) to decrease the difference from f_r in this circuit.

Phase detector

This is a circuit to detect the difference in frequency and phase between reference frequency f_r and comparison frequency f_r' in terms of pulses.

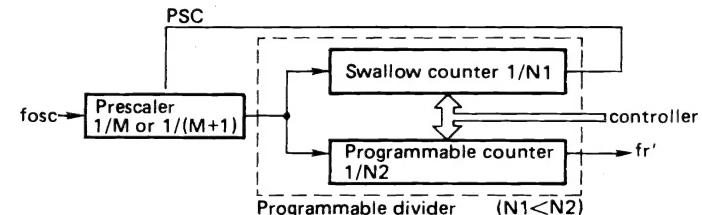
Low pass filter

This circuit is intended to vary and fix the output voltage in order to deliver a varicap voltage necessary for desired VCO frequency, on the basis of the output of the phase detector.

Prescaler

The local oscillation frequency in FM is higher than the operating speed of the programmable divider of PLL, thereby opposing to accurate operation. To avoid this, the local oscillation frequency is preliminarily divided down in this circuit to a proper frequency permitting reliable operation of the programmable divider.

Pulse swallow count system is employed. A couple of programmable divider (swallow counter and programmable counter) can be selected.



$$f_{osc} = \{ (M+1) N1 + M (N2 - N1) \} f_r'$$

$$= (MN2 + N1) f_r'$$

Prescaler

Swallow counter

Programmable counter

M+1

N1

N2

N2 - N1

The prescaler at first starts the frequency division with the ratio $M+1$. Then swallow counter and programmable counter start counting simultaneously. When $N1$ inputs are applied, swallow counter stops counting. Then the frequency division ratio of the prescaler is switched to M . Programmable counter continues to count however and stops when the input reaches $N2$. The frequency division ratio of the prescaler switches back to $M+1$ and swallow counter and programmable counter start to count again.

FM reception employs the pulse swallow count system. AM reception does not employ the pulse swallow count system but employs the direct frequency division system and so only programmable counter is operated.

2. GENERAL DESCRIPTION OF LOGIC IC (IC901)

a) IC901 μ PD1714G-630

This IC includes PLL and controller is a C-MOS LSI for digital tuning of FM/MW/LW frequency synthesizer system and controls such functions as FM/MW/LW automatic channel selection, preset memory and frequency digital display with Prescaler and liquid crystal digital frequency display driver. It is packed in a 64-pin flat package.

3. AUTO STOP

If count start, when High level signal is applied to SD terminal (Pin No. 15). Then IF frequency became 10.7MHz ± 30 kHz at FM or 450kHz ± 5 kHz at MW or 450kHz ± 600 Hz at LW. When SD and IF is agreed radio auto search tuning stops.

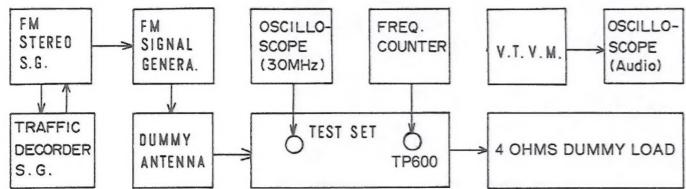
ALIGNMENT PROCEDURES

TRAFFIC DECODER ALIGNMENT (SK. DK)

1. Test equipment required

- * FM SIGNAL GENERATOR
- * FM STEREO SIGNAL GENERATOR
- * TRAFFIC DECODE SIGNAL GENERATOR
- * FREQUENCY COUNTER
- * V.T.V.M.
- * OSCILLOSCOPE (30 MHz)
- * OSCILLOSCOPE (Audio)
- * 4 OHMS DUMMY LOAD

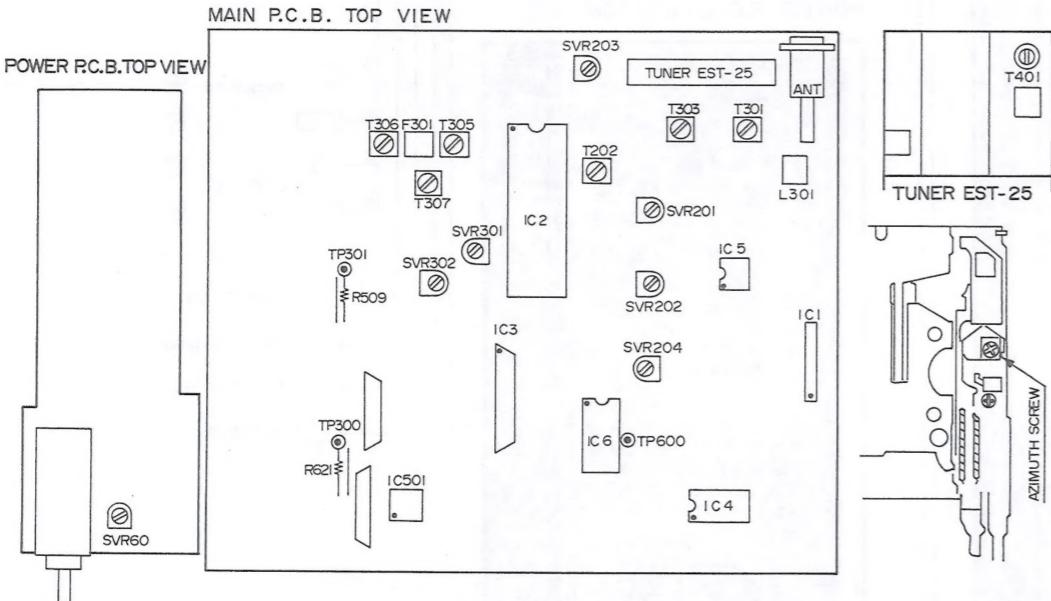
2. Traffic decoder test equipment set-up diagram



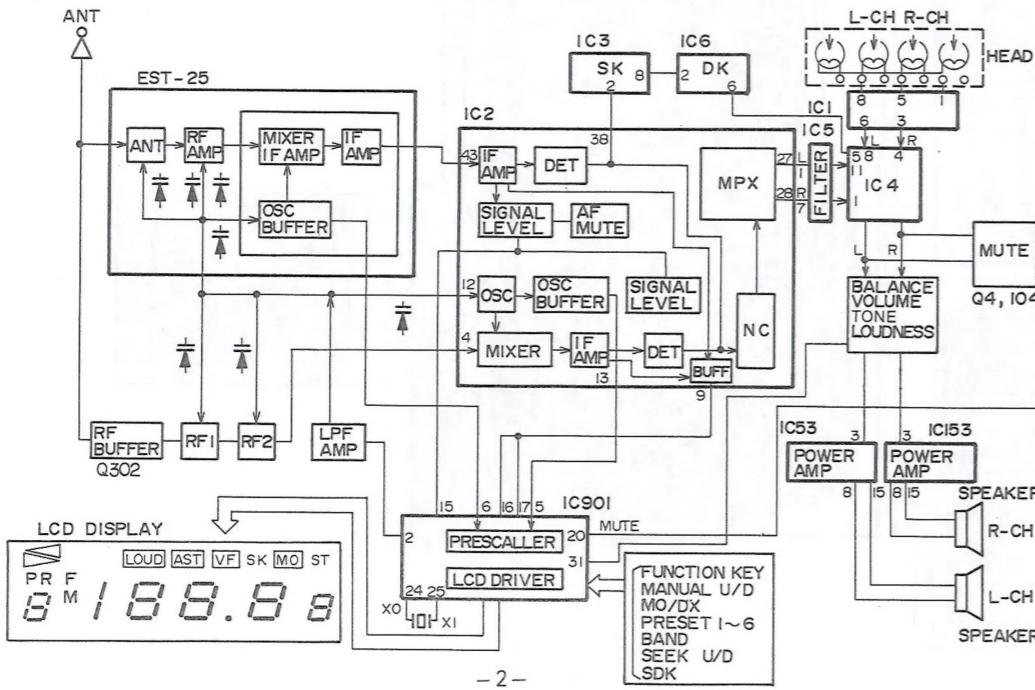
3. Alignment procedure

Step	Signal Input	FM Signal Generator	FM Stereo S.G.	Traffic Decod S.G.	Dial Setting of Radio	Adjustment
1	Through antenna dummy (Fig. 2)	No signal condition	—	—	—	Connect frequency counter to TP600 and common ground. Adjust SVR204 for frequency to be 125 ± 1 Hz.
2	—	19 kHz Pilot signal OFF	SK 3.75 kHz dev. DK 30% mod. BK 60% mod.	98.00 MHz	—	When volume minimum and Sdk button on position SVR 60 for output voltage to be 450 mV. (speaker terminal)

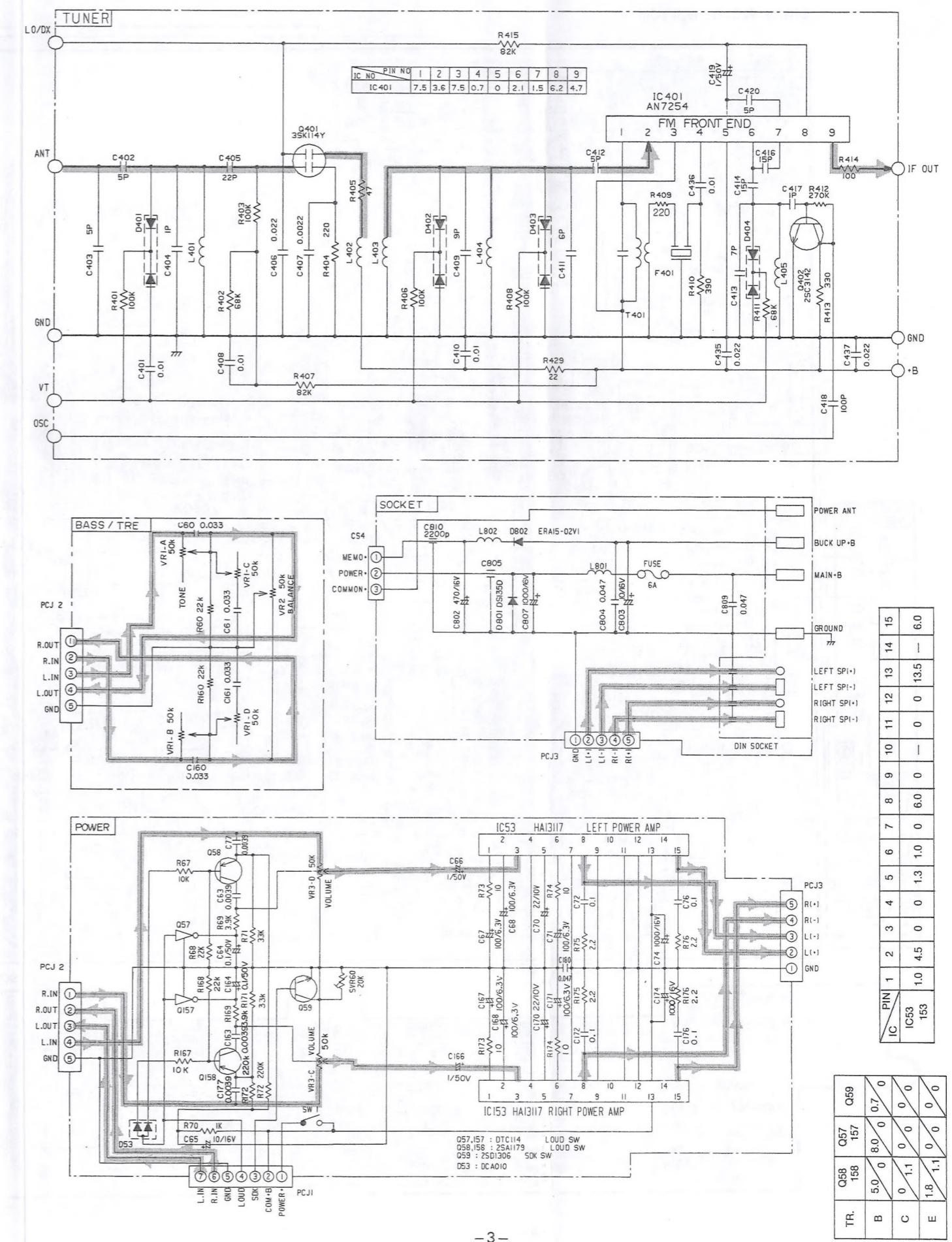
MAIN PARTS IDENTIFICATION ILLUSTRATION



BLOCK DIAGRAM

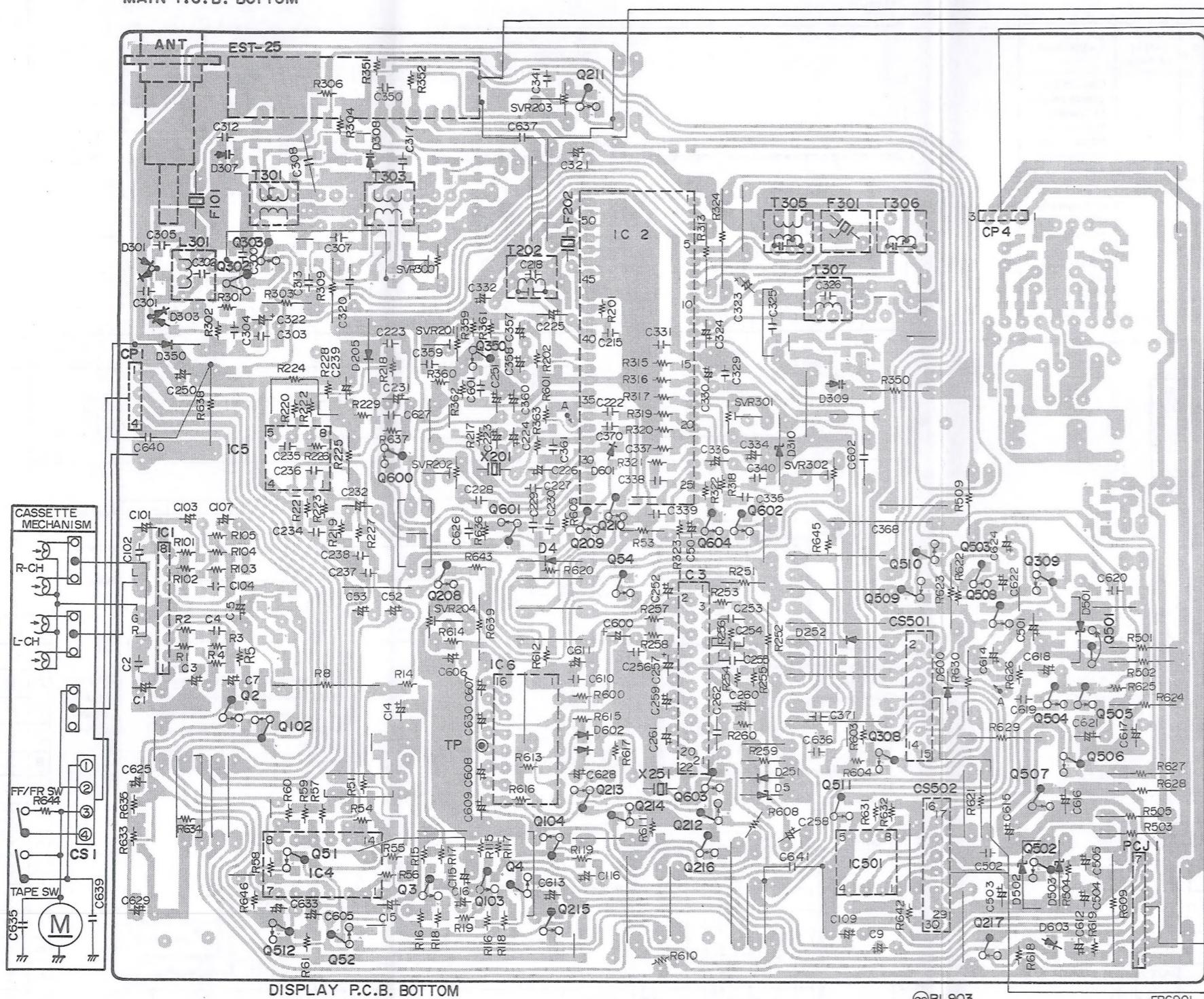


SCHEMATIC DIAGRAM

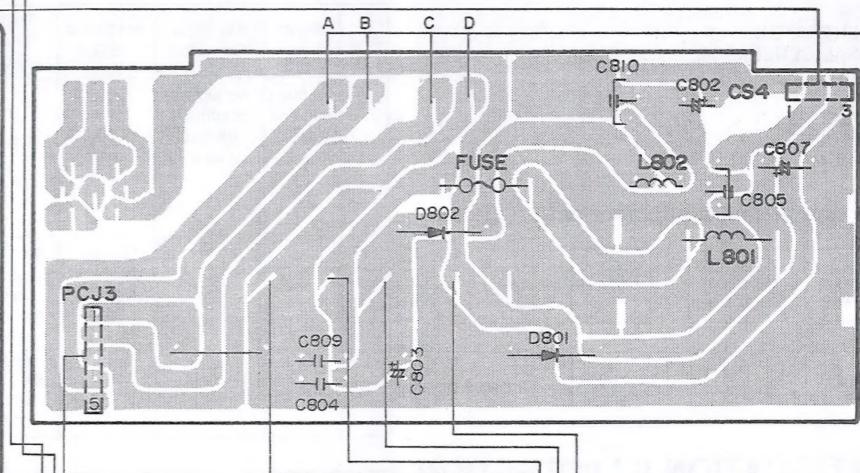


WIRING DIAGRAM

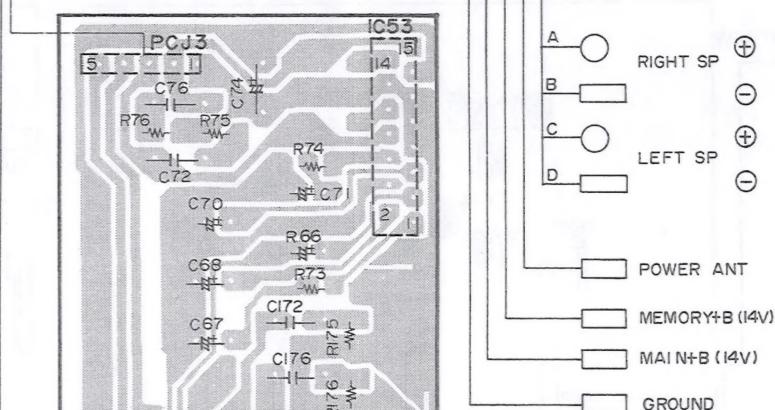
MAIN P.C.B. BOTTOM



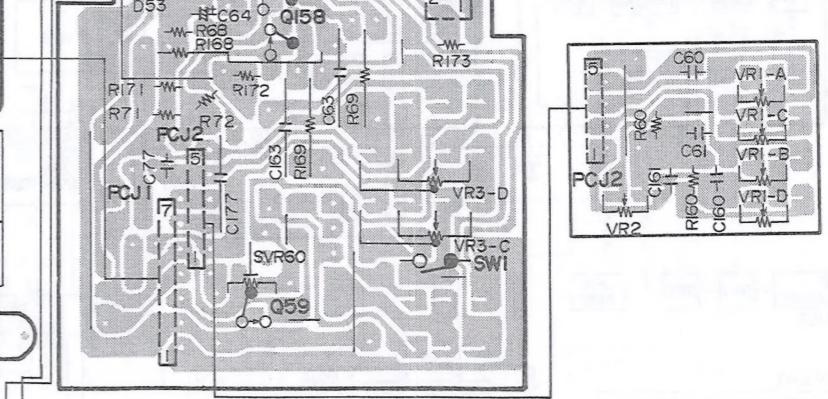
SOCKET P.C.B. BOTTOM



POWER P.C.B. BOTTOM



TONE P.C.B. BOTTOM



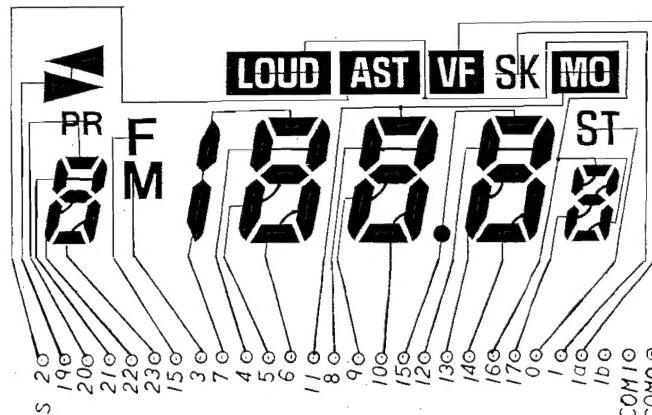
CIRCUIT DESCRIPTION

DESCRIPTION (μPD1714G-630-12)

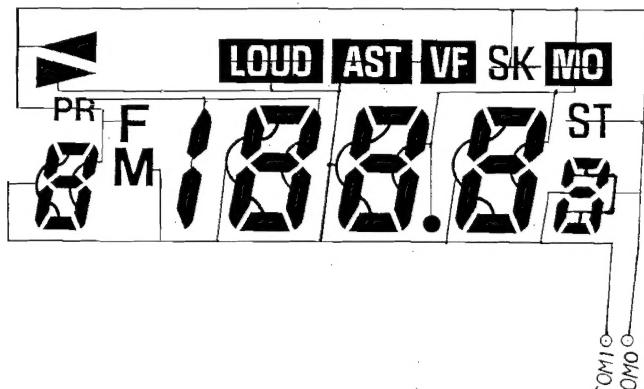
PIN NO.	SYMBOL		FUNCTIONAL EXPLANATION													
	IN	OUT														
1			NC													
2		E01	Phase detector output													
3			NC													
4	GND		GND													
5	AM		AM OSC input													
6	FM		FM OSC input													
7	CE1		Chip enable 1 (+5V)													
8		GND	GND													
9		CE2	Controller Data Line													
10		SO	Controller Data Line													
11		SC	Controller Data Line													
12	SI		Controller Data Line													
13	CE3		Chip enable 3													
14	SK		SK signal input													
15	SD		Channel reception Signal input for auto stop (Active High)													
16	AM IF		AM IF input													
17	FM IF		FM IF input													
18	TAIN		TAPE signal input													
19	TA. R		TAPE indication input													
20		MUTE	Mute signal output (Active Low)													
21		SDK	SDK signal output													
22		FM BAND	<table border="1"> <tr> <th>PIN</th> <th>FM</th> <th>MW</th> <th>LW</th> </tr> <tr> <td>FMB AND</td> <td>HIGH</td> <td>LOW</td> <td>HIGH</td> </tr> <tr> <td>AMB AND</td> <td>LOW</td> <td>HIGH</td> <td>HIGH</td> </tr> </table>		PIN	FM	MW	LW	FMB AND	HIGH	LOW	HIGH	AMB AND	LOW	HIGH	HIGH
PIN	FM	MW	LW													
FMB AND	HIGH	LOW	HIGH													
AMB AND	LOW	HIGH	HIGH													
23		AM BAND														
24	X0		Input side of inverter for OSC													
25	X1		Output side of inverter for OSC													
26	VDD		VDD (+5V)													
28	SE		SECURITY signal output													
27	DOLBY		DOLBY signal output													
29	ST/MO		STEREO MONO signal output													
30			NC													
31	LOUD		LOUDNESS signal output													
32	S23		LCD 23 output for LCD													
33	S22		LCD 22 output for LCD													
34	S21		LCD 21 output for LCD													
35	S20		LCD 20 output for LCD													
36	S19		LCD 19 output for LCD													
37	S18		LCD 18 output for LCD													
38	S17		LCD 17 output for LCD													
39	S16		LCD 16 output for LCD													
40	S15		LCD 15 output for LCD													
41	S14		LCD 14 output for LCD													
42	S13		LCD 13 output for LCD													
43	S12		LCD 12 output for LCD													
44	S11		LCD 11 output for LCD													
45	S10		LCD 10 output for LCD													
46		KS9	Key matrix return signal output.													
		S 9	LCD 9 output for LCD													
47		KS8	Key matrix return singal output													
		S 8	LCD 8 output for LCD													
48		S 7	LCD 7 output for LCD													
49		S 6	LCD 6 output for LCD													

PIN NO.	SYMBOL		FUNCTIONAL EXPLANATION	
	IN	OUT		
50		S 5	LCD 5 output for LCD	
51		KS4	Key matrix return signal output	
		S 4	LCD 4 output for LCD	
52		KS 3	Key matrix return signal output.	
		S 3	LCD 3 output for LCD	
53		KS2	Key matrix reurn signal output.	
		S 2	LCD 2 output for LCD	
54		KS1	Key matrix return signal output.	
		S 1	LCD 1 output for LCD	
55		KS 0	Key matrix return signal output.	
		S 0	LCD 0 output for LCD	
56		COM0	COMMON SIGNAL 0 output for LCD.	
57		COM1	COMMON SIGNAL 1 output for LCD.	
58			NC	
59	K3		Key return signal input 3	
60	K2		Key return signal input 2	
61	K1		Key return signal input 1	
62	K0		Key return signal input 0	
63	AD		Signal mater Level input	
64	ST		STEREO signal input	

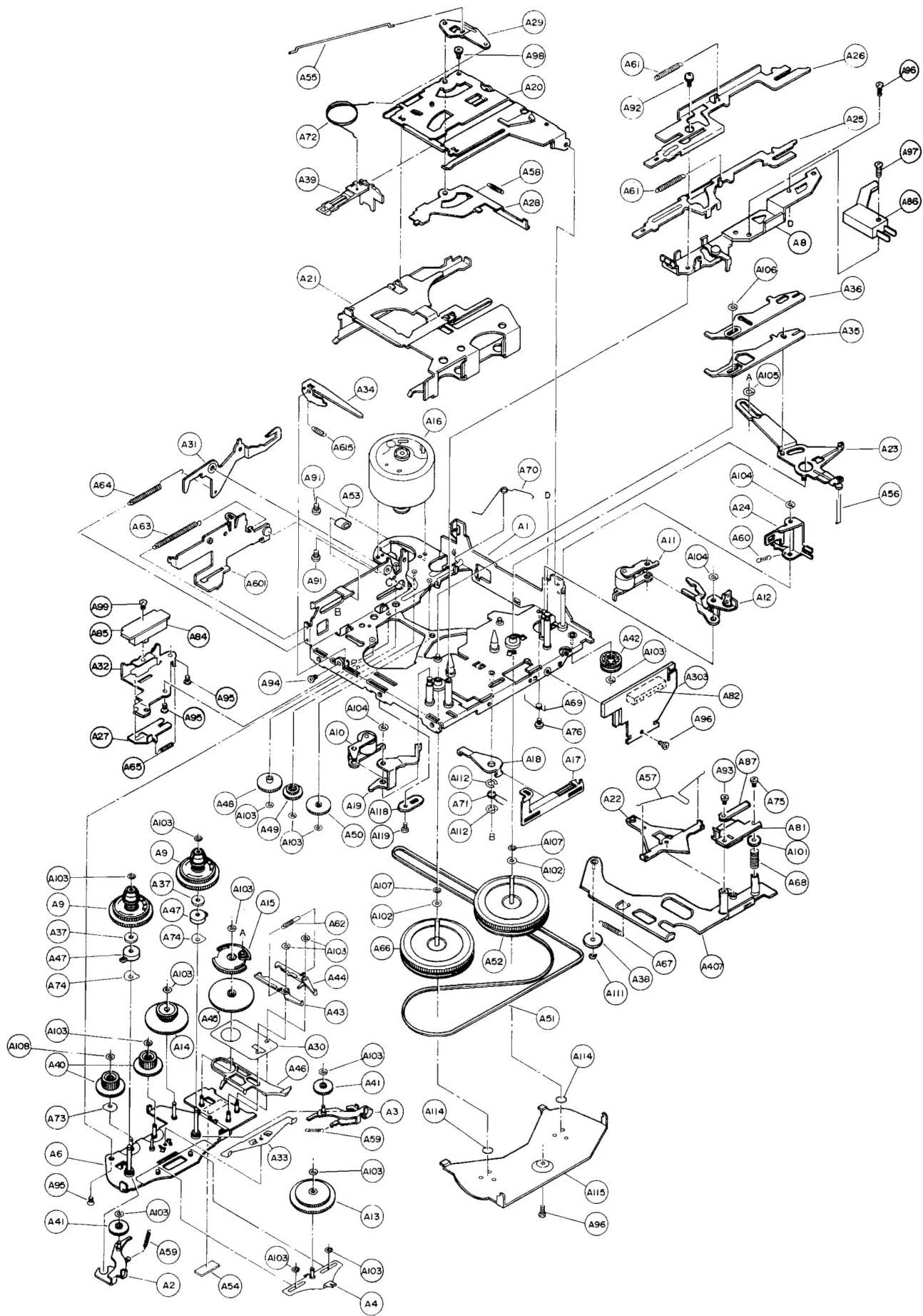
SEGMENT



COMMON



EXPLODED VIEW (CASSETTE MECHANISM)



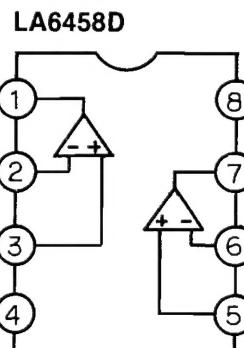
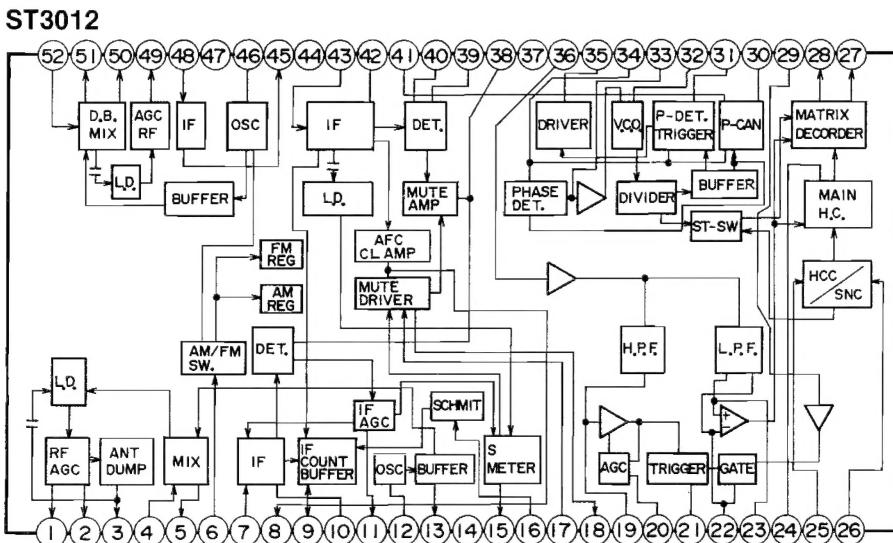
PARTS LIST (CASSETTE MECHANISM)

Ref.No	PART No.	DESCRIPTION	Q'ty	Ref.No	PART No.	DESCRIPTION	Q'ty
CASSETTE MECHANISM (R-S97295A)							
A1	632 501 7891	CHASSIS ASS'Y, MAIN	1	A56	TN-D166-E10	WIRE SPRING, ACTUATER B	1
A2	TN-D002-E11/1	PLATE ASS'Y, GEAR A	1	A57	TN-D197-E02	WIRE SPRING, PINCH ROLLER	1
A3	TN-D002-E11/2	PLATE ASS'Y, GEAR B	1	A58	TN-Z701-E27	COIL SPRING, 1	1
A4	TN-D003-E05	PLATE ASS'Y, FR GEAR	1	A59	TN-Z701-E28	COIL SPRING, 1	2
A6	TN-D010-D02	REEL PLATEASS'Y	1	A60	TN-Z701-E29	COIL SPRING, 1	1
A8	TN-D013-E08/2	PLATE ASS'Y, SIDE	1	A61	TN-Z701-E36	COIL SPRING, 1	2
A9	TN-D016-E12/2	REEL ASS'Y, GEAR	2	A62	TN-Z702-E85	COIL SPRING, 2	1
A10	TN-D017-E11/1	PINCH ROLLER ASS'Y, A	1	A63	TN-Z702-E86	COIL SPRING, 2	1
A11	TN-D017-E11/2	PINCH ROLLER ASS'Y, B	1	A64	TN-Z702-E87	COIL SPRING, 2	1
A12	TN-D022-E09	LEVER ASS'Y, TURN	1	A65	632 501 7938	COIL SPRING, 2	1
A13	TN-D040-E02	GEAR ASS'Y, FR	1	A66	TN-D145-DE04/1	FLYWHEEL	1
A14	TN-D043-E01	GEAR ASS'Y, TAKE UP	1	A67	632 501 7945	COIL SPRING, 2	1
A15	TN-D044-E01	GEAR ASS'Y, CHANGE	1	A68	632 505 8771	COMPRESSION SPRING, 2	1
A16	R-S57368B	DC MOTOR	1	A69	TN-Z722-E03	TORSION SPRING, 2	1
A17	TN-D112-E06	CAM, FR B	1	A70	TN-Z722-E04	TORSION SPRING, 2	1
A18	TN-D112-E07	CAM, FR C	1	A71	TN-Z723-E12	TORSION SPRING, 3	1
A19	TN-D112-E10	CAM, FR D	1	A72	TN-Z730-E01	TORSION SPRING, 10	1
A20	632 501 7907	PLATE ASS'Y, ACTION	1	A73	TN-P504-E05/3	PLATE SPRING	1
A21	TN-D122-C03	CASE, CASSETTE	1	A74	TN-P504-E15	PLATE SPRING	2
A22	TN-D152-E06	LINK, CHANGE A	1	A75	632 505 8788	SPECIAL SCREW	1
A23	TN-D152-D03	LINK, CHANGE B	1	A76	TN-D230-E02	SPECIAL SCREW	1
A24	TN-D154-E07/1	PLATE ASS'Y, FR CANCELL	1	A81	R-S07636-1	PLAYBACK HEAD	1
A25	TN-D155-DE14/2	LEVER, FR A	1	A82	TN-P061-D46	SLIDE SWITCH	1
A26	TN-D155-DE15/2	LEVER, FR B	1	A84	TN-P061-D45	SLIDE SWITCH	1
A27	632 501 7914	BRACKET ASS'Y, ACTUATER A	1	A85	632 501 7952	PC BOARD, SWITCH B	1
A28	TN-D174-E07	PLATE, TURN A	1	A86	TN-MLS-15	SLIDE SWITCH, MICRO	1
A29	TN-D174-E08	PLATE, TURN B	1	A87	TN-D211-E03	WIRE BAND	1
A30	TN-D184-E02	SHEET, THRUST	1	A91	TN-M26X3PA	SPECIAL SCREW, PAN	2
A31	TN-D192-E02	ARM, ACTION	1	A92	TN-M26X4.5SEM	SPECIAL SCREW, SEMS	1
A32	632 501 7921	CHASSIS, SUB	1	A93	TN-M2X5	SPECIAL SCREW, BIND	1
A33	TN-D201-E03	LEVER, SENSER A	1	A94	TN-M2X2S	SPECIAL SCREW	1
A34	TN-D202-E06	PLATE, LOCK B	1	A95	TN-M2X3S	SPECIAL SCREW	3
A35	TN-D214-E03	LEVER, CHANGE A	1	A96	TN-M2X3ST	SPECIAL SCREW	3
A36	TN-D214-E04	LEVER, CHANGE B	1	A97	TN-M17X6	SPECIAL SCREW	1
A37	TN-D135-E06	FELT, FRICTION B	2	A98	TN-M2X4ST	SPECIAL SCREW	1
A38	TN-D117-E16	ROLLER, HEAD PLATE B	1	A99	632 501 7969	SPECIAL SCREW	1
A39	TN-D121-C02	STOPPER, CASSETTE	1	A101	TN-Z200E03/58	SPECIAL WASHER	1
A40	TN-D146-E09	GEAR, TAKE UP C	2	A102	TN-Z204-E01/6	SPECIAL WASHER, PS	2
A41	TN-D146-E10	GEAR, TAKE UP D	2	A103	TN-Z205-E01/1	SPECIAL WASHER, PS	16
A42	TN-D151-E06/2	PULLEY, IDLE	1	A104	TN-Z205-E01/3	SPECIAL WASHER, PS	3
A43	TN-D156-E05	CAM, HOOK A	1	A105	TN-Z205-E01/7	SPECIAL WASHER, PS	1
A44	TN-D156-E06	CAM, HOOK B	1	A106	TN-Z205-E01/8	SPECIAL WASHER, PS	1
A45	TN-D196-E02	GEAR, CHANGE A	1	A107	TN-Z204-E01/15	SPECIAL WASHER, PS	2
A46	TN-D201-D04	LEVER, SENSER B	1	A108	TN-Z204-E01/13	SPECIAL WASHER, PS	1
A47	TN-D201-E04	LEVER, SENSER C	2	A111	TN-Z100E01/01	RING, E	1
A48	TN-D212-E08	GEAR, IDLE A	1	A112	TN-Z100E01/08	RING, E	2
A49	TN-D212-E11	GEAR, IDLE B	1	A114	TN-D183-E01	BRACKET SHAFT, THRUST	2
A50	TN-D212-E10	GEAR, IDLE C	1	A115	TN-D159-E06	BRACKET, FLYWHEEL	1
A51	TN-D144-E11	BELT	1	A303	TN-PC-249	PC BOARD, SWITCH A	1
A52	TN-D145-DE03/1	FLYWHEEL	1	A407	632 505 8795	PLATE ASS'Y, HEAD	1
A53	TN-CR60.3-5-6	SLEEVE, TUBE	1	A601	632 501 7976	LEVER ASS'Y, EJECT	1
A54	TN-D135-E08	FELT	1	A615	632 501 7983	COIL SPRING, 2	1
A55	TN-D165-E02	WIRE SPRING	1	A118	R-1172356A	BRACKET, SHAFT	1
				A119	411 034 6409	SCR FLT 3X6	1

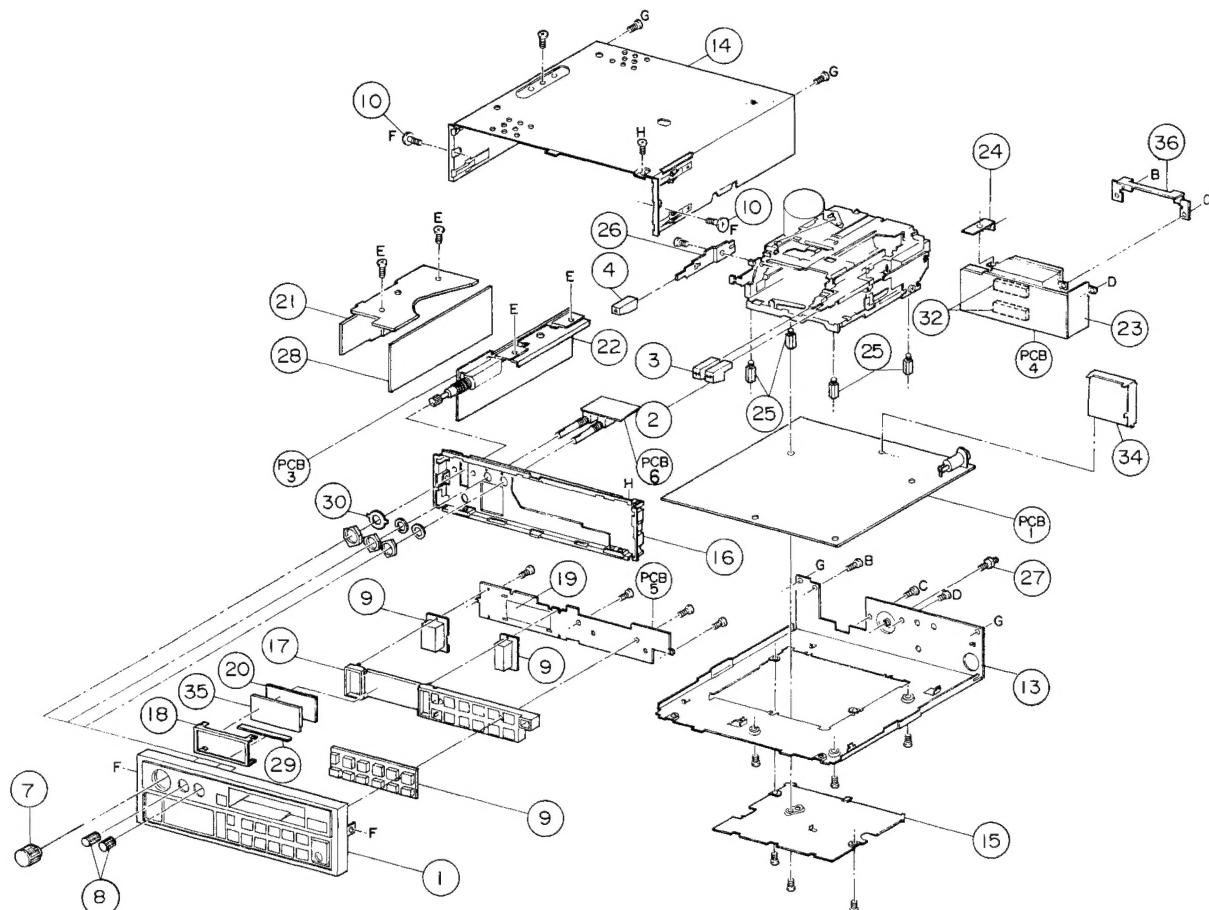
NOTES: 1. Part orders must contain Model Number, Part Number and Description.

2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

IC FUNCTIONS



EXPLODED VIEW (CABINET & CHASSIS)



PARTS LIST

Ref.No	PART No.	DESCRIPTION	Q'ty
INDIVIDUAL			
	R-4079910	INDIVIDUAL CARTON CASE	1
	R-4177152	STYRO-FOAM CUSHION	2
	R-357676	POLYETHYLENE BAG	1
ACCESSORY			
	R-47701963	INSTRUCTION BOOK	1
	R-47701213	GUARANTEE CARD	1
	R-47701958	STICKER	2
	R-S874377	BRACKET ASS'Y	1
	R-1572388	WIRE SPRING, SHAFT	2
	R-S17558	FUSE, 6A 125V	1
	R-357527-1	POLYETHYLENE BAG	1
	R-357528-1	POLYETHYLENE BAG	1
CABINET			
1	R-A708604	NOSE PANEL ASS'Y	1
2	R-3978585-1	KNOB, F.F.	1
3	R-3978586-1	KNOB, REWIND	1
4	R-3978587-1	KNOB, EJECT	1
7	R-3977310	KNOB, VOLUME	1
8	R-3976442A	KNOB, VOLUME	2
9	R-4471323-6	RUBBER SHEET	1
10	R-1572793	SPECIAL SCREW	2
	412 016 5403	SPECIAL SCREW	4
	411 047 5604	SCR PAN+FLG 3X12	1
	R-47701587	CAUTION LABEL, CODE	1
	R-47701964	RATING LABEL	1
	R-4777245	COVER	1
	R-4777421	CAUTION LABEL	1
	R-4777117	LABEL	1
	R-4779010	CAUTION LABEL	1
	R-47701795	CAUTION LABEL, SHIPPING	1

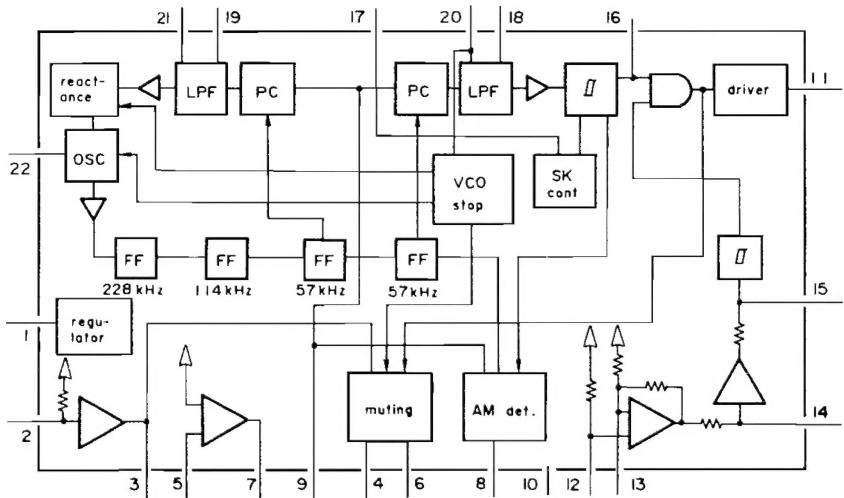
Ref.No	PART No.	DESCRIPTION	Q'ty
CHASSIS			
13	R-1277428	METAL CASING	1
14	632 503 0968	TOP LID ASS'Y	1
15	R-1276779A	BOTTOM LID	1
16	R-1276567-1	FRONT CHASSIS	1
	411 028 5906	SCR S-TPG PAN 2.6X5	6
	R-3871076A	REFLECTOR, LCD	1
17	R-1277210	BRACKET, LCD	1
18	R-47701040	SHEET, LCD	1
19	R-47701039	REFLECTOR, LCD	1
20	R-2674151-3	HEAT SINK	1
21	R-1277213	BRACKET, IC	1
22	R-1276538	SHIELD CASE	1
23	R-1277427	BRACKET, SOCKET	1
24	R-1573142	SHAFT, MECHANISM	4
25	R-1277240A	LEVER, EJECT	1
	411 040 0507	SCR PAN 2.6X3	1
26	R-1571833A	SPECIAL SCREW	1
27	R-4177341	COVER, HEAT SINK	1
28	R-4471092A	CONNECTOR	1
29	R-1271053	SPECIAL WASHER, VOLUME	1
30	R-437710-9	CUSHION, COVER, LCD	1
	R-4471463A	CUSHION, DIN SOCKET	2
	R-4774737	COVER, PL	2
	R-4775228	COVER, VOLUME KNOB	1
32	R-1277212-1	BRACKET, SOCKET	1
	411 031 1209	SCR BIN 2.6X5, IC	2
	411 031 7508	SCR BIN 3X5, HEAT SINK	1
	411 028 5906	SCR S-TPG PAN 2.6X5	10
	411 028 5906	MECHA, BOTTOM, BRACKE	1
	R-357339	SCR S-TPG PAN 2.6X5	1
		DIN SOCKET	1
		POLYETHYLENE BAG	1
		SERIAL NUMBER LABEL	1

NOTES: 1. Part orders must contain Model Number, Part Number and Description.
 2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

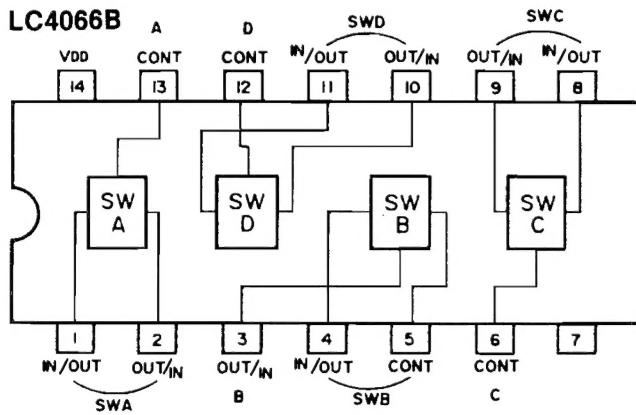
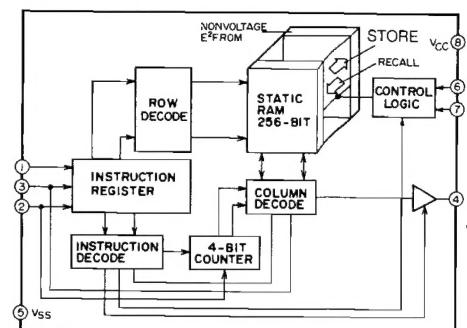
NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

IC FUNCTIONS

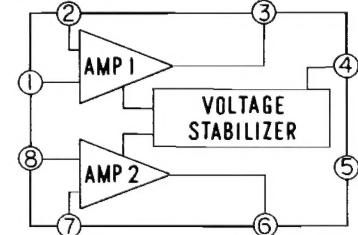
LA2220



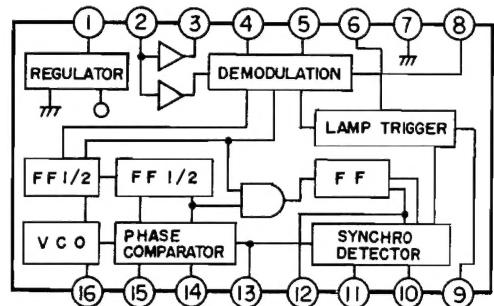
S-2444R01



LA3161



LA3361



PARTS LIST (CONTINUED)

Ref.No	PART No.	DESCRIPTION	Q'ty	Ref.No	PART No.	DESCRIPTION	Q'ty
CHASSIS ELECTRICAL							
CS1	632 505 8078	CASSETTE MECHANISM ASS'Y, NO SERVICE	1	C615,103	403 038 1603	ELECT 100U M 6.3V	2
R644	R-S37874-8	CORD, 80MM 4P	1	C616,501	403 039 6508	ELECT 100U M 10V	2
C635,639	401 026 9907	CARBON 4.7K JA 1/6W	1	C332	403 039 6508	ELECT 100U M 10V	1
34	403 004 1002	CERAMIC 0.047U M 25V	2	C621	403 043 9106	ELECT 47U M 16V	1
PL901-	R-S874551	TUNER	1	C612	403 039 2104	ELECT 47U M 6.3V	1
907	R-S17596	PILOT LAMP, 5V 60MA	7	C322	403 039 2609	ELECT 47U M 6.3V	1
35	632 500 4013	LIQUID CRYSTAL DISPLAY	1	C324,336	403 040 2209	ELECT 22U M 10V	2
MAIN P.C.B. ASSEMBLY							
PCB1	632 500 8134	PC BOARD ASS'Y, MAIN	1	C330,53,	403 049 0800	ELECT 1U M 50V	14
TP300	R-257196-1	TERMINAL	1	52,1,15,			
CS501,502	R-377186-15	HOUSING, 15P	2	101,625,			
ANT	R-S27192-1A	SOCKET, ANTENNA } or	1	115,7,9,			
	R-S27192-6	SOCKET, ANTENNA }		107,630,			
CP4	R-S27781-3	PLUG, 3P	1	223,109			
CP1	R-S27781-4	PLUG, 4P	1	C334	403 047 9003	ELECT 0.1U M 50V	1
PCJ1	R-S370327-8	PC JOINER, 80MM 7P	1	C257	403 048 6902	ELECT 0.47U M 50V	1
F301	R-S17637	CERAMIC FILTER, 450KHz	1	C259	403 048 4809	ELECT 0.33U M 50V	1
F202	R-S17570-1	CERAMIC FILTER, 10.700MHz	1	C261,607	403 047 0604	ELECT 4.7U M 25V	5
X201	R-S17858	CERAMIC OSCILLATOR, 19KHz	1	251,323,			
X251	R-S17938	CERAMIC OSCILLATOR, 57KHz	1	600			
F101	R-W17080	PACKED C&L	1	C225,226	403 050 0509	ELECT 2.2U M 50V	2
Q501	405 073 5202	TR 2SD2012	1	C250	403 050 0509	ELECT 2.2U M 50V	1
IC2	409 140 1807	IC ST3012	1	C358,360,	403 041 9405	ELECT 10U M 16V	9
IC1	409 016 7902	IC LA1316	1	232,231,			
IC4	409 020 8704	IC LC4066B	1	239,618			
IC5	409 018 4305	IC LA6458D	1	629,605,			
IC3	409 016 6301	IC LA2220	1	357			
IC6	409 016 9500	IC LA3361	1	C224,16	403 048 2508	ELECT 0.22U M 50V	2
IC501	409 143 2603	IC S-2444R01	1	C116	403 048 2508	ELECT 0.22U M 50V	1
L301	R-W17124	CHOKE COIL, 140μH	1	C260,50	403 038 5403	ELECT 22U M 6.3V	2
T301,303	R-W5T7073	IF TRANSFORMER, M.W.	2	C613	403 038 5403	ELECT 22U M 6.3V	1
T305	R-W5T7126	IF TRANSFORMER	1	C608,628	403 038 9005	ELECT 33U M 6.3V	2
T306	R-W5T7125	IF TRANSFORMER	1	C609,3	403 038 2006	ELECT 100U M 6.3V	2
T307	R-W87035	OSC COIL	1	C633	403 038 2006	ELECT 100U M 6.3V	1
T202	R-W5T7111-1	IF TRANSFORMER, FM	1	C611,14	403 039 7307	ELECT 100U M 10V	2
D307-309	407 000 5507	VARACTOR DI SVC321SP-C-3	3/3	C5	403 039 7307	ELECT 100U M 10V	1
		DO NOT USE DIODES FROM		C252	403 040 3701	ELECT 220U M 10V	1
		DIFFERENT BAGS BUT A PAIR		C258	403 038 6301	ELECT 220U M 6.3V	1
		OF DIODES FROM A SAME BAG		C503	403 039 3507	ELECT 470U M 6.3V	1
D503	407 098 0903	ZENER DIODE HZS6B2L	1	C301,312	403 015 3705	CERAMIC 2P C 50V	2
D502	407 050 4703	ZENER DIODE GZA5.1X	1	C636	403 026 2902	CERAMIC 47P J 50V	1
D501	407 050 7704	ZENER DIODE GZA9.1Y	1	C371	403 069 1702	CERAMIC 100P K 50V	1
D310	407 052 2004	ZENER DIODE HZ3ALL	1	C601	403 070 5508	CERAMIC 1200P K 50V	1
D5	407 050 3607	ZENER DIODE GZA4.7X	1	C4,104	403 070 6703	CERAMIC 0.012U K 50V	2
D251,252	407 012 4406	DIODE 1SS133	5	C230,229	403 070 6703	CERAMIC 0.012U K 50V	2
205,4,350				C359	403 073 0005	CERAMIC 3300P K 50V	1
D600	407 012 4406	DIODE 1SS133	1	C302,304	403 072 1607	CERAMIC 0.022U K 50V	2
D301,303	407 004 1000	DIODE DCC010	2	C317,300	403 072 1607	CERAMIC 0.022U K 50V	2
D602	407 065 2909	DIODE DWA010	1	C329,331	403 072 1607	CERAMIC 0.022U K 50V	2
D603	407 004 8009	DIODE DSB015	1	C228,313	403 072 1607	CERAMIC 0.022U K 50V	2
D601	407 004 5602	DIODE DSA015	1	C341	403 072 1607	CERAMIC 0.022U K 50V	1
Q302	405 068 0809	TR 2SK932-22 } or	1	C350,307,	403 130 3109	CERAMIC 0.047U K 50V	9
	405 068 0908	TR 2SK932-23		502,610,			
Q2,102	405 035 6506	TR 2SD1306N-E	2	222,256,			
Q4,104	405 035 6506	TR 2SD1306N-E	2	370,215,			
Q303,504	405 015 8902	TR 2SC2812-L7	2	340			
Q505	405 015 8902	TR 2SC2812-L7	1	C619	403 073 4409	CERAMIC 0.039U K 50V	1
Q350,600	405 015 8704	TR 2SC2812-L6	2	C335,339,	403 069 5601	CERAMIC 0.01U K 50V	5
Q601,3	405 015 8704	TR 2SC2812-L6	2	620,227,			
Q103,502	405 015 8704	TR 2SC2812-L6	2	303,			
Q308,512	405 015 8704	TR 2SC2812-L6	2	C218	403 031 9200	CERAMIC 7P D 50V	1
Q216,217	405 002 6706	TR 2SA1179-M6	2	C361	403 017 0900	CERAMIC 20P J 50V	1
Q208-212,	405 000 3608	TR DTC114YK	18	C325,2	403 026 7501	CERAMIC 470P J 50V	7
52,54,				102			
214,215,				C326	403 012 6808	CERAMIC 15P J 50V	1
503,506,				C337	403 071 8102	CERAMIC 2200P K 50V	1
507,510,				C338	403 075 0706	CERAMIC 6800P K 50V	1
511,51,				C626,627	403 009 9409	CERAMIC 100P K 50V	2
602,604				C233,234	403 073 4201	CERAMIC 3900P K 50V	2
Q213,509	405 029 3009	TR DTA114YK	2	C305	403 075 5305	CERAMIC 8200P K 50V	1
SVR300	R-R1107154	PRESET RESISTOR, 1K	1	C253,254	403 056 7205	POLYESTER 1000P J 50V	2
SVR204	R-R1107154-3	PRESET RESISTOR, 10K	1	C255	403 059 2900	POLYESTER 2200P J 50V	1
SVR201,	R-R1107154-4	PRESET RESISTOR, 20K	2	C308	403 002 2506	CERAMIC 0.01U M 25V	1
301				C320	403 003 3304	CERAMIC 0.022U M 25V	1
SVR202	R-R1107154-5	PRESET RESISTOR, 50K	1	C262	403 067 8208	MT-COMPO 0.068U J 50V	1
SVR203	R-R1107154-6	PRESET RESISTOR, 100K	1	C602	403 001 1906	CERAMIC 0.01U M 16V	1
SVR302	R-R1107154-7	PRESET RESISTOR, 200K	1	C606	403 092 6309	TA-SOLID 0.22U M 35V	1
C321	403 049 9803	ELECT 2.2U M 50V	1	C637,640	403 004 1002	CERAMIC 0.047U M 25V	2
C617,622	403 041 8804	ELECT 10U M 16V	2	C641	403 004 1002	CERAMIC 0.047U M 25V	1
C505,504	403 041 8804	ELECT 10U M 16V	2	R53	401 025 8208	CARBON 22K JA 1/6W	1
C624	403 041 8804	ELECT 10U M 16V	1	R501	401 026 8108	CARBON 4.7 JA 1/6W	1
				R252	401 024 7004	CARBON 1K JA 1/6W	1
				R609	401 024 7707	CARBON 100K JA 1/6W	1
				R610	401 025 8000	CARBON 2.2K JA 1/6W	1
				R608	401 027 0101	CARBON 4.7K JA 1/6W	1
				R618	401 025 8406	CARBON 22K JA 1/6W	1
				R224	401 027 0309	CARBON 47K JA 1/6W	1

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FISHER Hi-Fi Europa Vertriebs GmbH

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Sie sparen so wertvolle Zeit. Vielen Dank.

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